A Hierarchical Key Structure for DNA Code Storage and Retrieval

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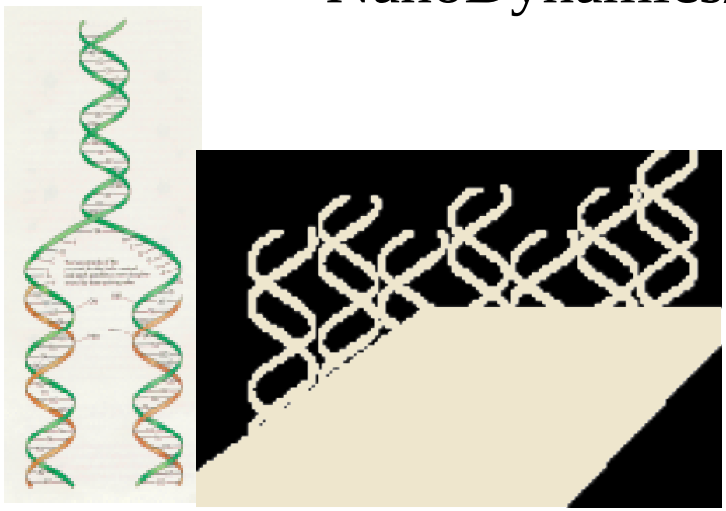

Objective

Develop screening techniques to allow efficient, logical design of DNA codes that will deliver a greatly improved “chip matrix” technology to molecular biology.

Approach

- Develop a generalized, *in vitro*, procedure for DNA cloning from any standard plasmid or lambda-based phage library.
- Demonstrate significant levels of an enzyme-mediated enrichment from cDNA libraries
- Integrate the enzyme-mediated enrichment with DNA-based chip matrix technology that will systematically locate tens of thousands of solid matrix bound single stranded probes homologous with the target DNA duplex.
- Automate the enzyme-mediated chip matrix.

Schedule

- Enzyme-mediated enrichment of a cDNA mini-library (4 months)
- Fidelity check on large scale three-some DNA inserts (10 months)
- DNA-Chip matrix mediated with enzyme, prototype demonstration (12 months)